Computational Biomechanics for Medicine III:
A MICCAI 2008 satellite workshop

Call for papers

Computational Biomechanics for Medicine
(http://www.cbm.mech.uwa.edu.au/)

will be held in New York on Sept. 10th 2008,

in conjunction with MICCAI 2008
(http://miccai2008.rutgers.edu/).

Rationale:

Mathematical modeling and computer simulation have proved tremendously successful in engineering. One of the greatest challenges for mechanists is to extend the success of computational mechanics to fields outside traditional engineering, in particular to biology, biomedical sciences, and medicine. The proposed workshop will provide an opportunity for computational biomechanics specialists to present and exchange opinions on the opportunities of applying their techniques to computer-integrated medicine. For example, continuum mechanics models provide a rational basis for analyzing biomedical images by constraining the solution to biologically reasonable motions and processes. Biomechanical modeling can also provide clinically important information about the physical status of the underlying biology, integrating information across molecular, tissue, organ, and organism scales. The main goal of this workshop is to showcase the clinical and scientific utility of computational biomechanics in computer-integrated medicine.

The authors of the best papers presented at the Computational Biomechanics for Medicine workshop will be requested to submit an extended version of their papers to the special section of the Medical Image Analysis journal.

Scope:

The following computational mechanics disciplines will be included:

1. Computational solid mechanics
2. Computational multibody systems kinematics and dynamics

3. Computational fluid mechanics
4. Computational thermodynamics (e.g. heat transfer, radiation)

We solicit papers that use methods of computational biomechanics in the following application areas:

- Medical image analysis
- Image-guided surgery
- Surgical simulation
- Surgical intervention planning
- Surgical technique development
- Disease prognosis and diagnosis
- Injury mechanism analysis
- Surgical aid design
- Artificial organs
- Implant and prostheses design
- Medical robotics
- Tissue engineering
- Understanding of embryonic development
- Understanding of aging

Key dates:

- Deadline for paper submission: 21 May 2008
- Notification of acceptance: 10 July 2008
- Final version of papers submitted: 03 August 2008
- Workshop: 10 September 2008

Submission:

Proceedings of the Workshop will be published by The Insight Journal http://www.insight-journal.org/ . The main feature of The Insight Journal is the open review process.

The IJ is an effective means for managing papers, reviews, and presentations for the workshop, and it does not prohibit the future publication of those works since it does not require copyright transfer. Furthermore, it allows the work to continue to develop past the conference.

Manuscripts should be submitted to The Insight Journal following the Journal's submission guidelines, by 21 May 2008. The length of papers including figures and references should be between six (6) and ten (10) double-column journal pages. All submissions will undergo open peer-review. Based on the reviews,

by 10 July 2007, the organizing committee will select contributions to be presented at the workshop. Final versions of the manuscripts, incorporating referees' suggestions, should be submitted by 03, August 2008.

The authors of the best papers presented at the Computational Biomechanics for Medicine III Workshop will be requested to submit an extended version of their papers to the special section of the Medical Image Analysis journal.